

**de Blank, Bas**

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**From:** Michael Headley [Headley@fr.com]  
**Sent:** Friday, November 11, 2005 9:53 AM  
**To:** de Blank, Bas  
**Subject:** Re: PI-Fairchild: joint claim construction chart  
**Attachments:** PI-F Claim construction chart MRH redline.DOC; 93jw02! MRH redline.DOC; 2005-11-11 PI-Fairchild joint claim construction chart.pdf

Bas,

Per our discussions, there were a few minor errors in the joint claim construction chart you sent me. I went through the Word document you sent and made the updates, and I've attached

- (1) a new Word version with my edits;
- (2) a redlined Word version tracking my changes; and
- (3) a PDF with the revised claim constructions (to prevent the problem we run into with pagination being based on the local printer instead of the document).

Let me know if you have any questions or trouble with the file. None of the changes are earth-shattering. There are, however, a few points that bear mentioning:

-I cut "maximum duty cycle signal" because your latest draft said it did not need construction by itself. That was PI's contention as well.

-I added language where PI did not believe a term needed construing.

-I put the "soft start circuit" before the various incarnations of that limitation, as it didn't make sense to discuss it after addressing the incarnations you've broken out as separate terms.

Let me know if you have any questions or trouble with the files. If your pagination comes out different from the PDF, let me know and I'll send over a hard copy printed out from my computer.

Thanks.

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<<PI-F Claim construction chart MRH redline.DOC>> <<93jw02! MRH redline.DOC>> <<2005-11-11 PI-Fairchild joint claim construction chart.pdf>>

1/17/2006

			'075 Claim
MOS transistor	A metal-oxide-semiconductor transistor having the elements set forth in the claim, which excludes a DMOS transistor.	A MOS transistor is a metal-oxide-semiconductor device that can control the flow of current between a source terminal and a drain terminal. In common usage in the industry, "high voltage" generally refers to a device that can operate at 50V and above.  Power Integrations disagrees with Fairchild that this term, or this claim, excludes all application to devices that may be referred to as "DMOS" transistors.	1, 5
substrate	The physical material on which a transistor is fabricated.	A substrate as expressly defined in the '075 patent is the physical material on which a microcircuit is fabricated and may include subsequently formed or doped regions which are expressly provided for in the patent and referred to as a "secondary substrate" such as a well or epitaxial layer.	1
a pair of laterally spaced pockets of semiconductor material of a second conductivity type within the substrate	Two laterally spaced pockets of semiconductor material of the opposite conductivity type from the substrate present within the physical material on which a microcircuit is fabricated. Power Integrations disclaimed reading this element on a DMOS transistors.	"[P]air of laterally spaced pockets of semiconductor material of a second conductivity type" should be given its plain, English language meaning. "Within the substrate" refers to anywhere within the boundaries of the substrate. Such a pocket can be within a well region and still be "within the substrate" as recited in the claim. Power Integrations disagrees with Fairchild that this phrase, or this claim, excludes all application to devices that may be referred to as "DMOS" transistors.	1
adjoining	To be very near, next to, or touching.	To be very near, next to, or touching.	1
a surface adjoining layer of material of the first conductivity type on top of an intermediate portion of the extended drain	A layer of material of the same conductivity as the substrate above a portion of the extended drain region and between the drain contact pocket and each of the surface adjoining positions of the extended drain region. Power	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:	1

region between the drain contact pocket and the surface-adjointing positions	Integrations disclaimed reading this element on a DMOS transistor.	A layer of material of the same conductivity type as the substrate located on top of a portion of the extended drain region between the drain contact pocket and surface adjoining positions of the extended drain region. Power Integrations disagrees with Fairchild that this phrase, or this claim, excludes all application to devices that may be referred to as "DMOS" transistors.	
said top layer of material	This term lacks antecedent basis and cannot be construed.	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  The top layer of material in this limitation refers to the surface adjoining layer.	1
substrate region thereunder which forms a channel	A channel is formed laterally in the substrate between the source contact pocket and the nearest surface-adjointing position of the extended drain region. Power Integrations disclaimed reading this element on a DMOS transistor.	This phrase should be afforded its plain meaning and simply refers to the physical location of the "channel" being formed underneath the gate region. Nothing in the patent precludes the channel from being formed in "well" material or otherwise doped material beneath the insulated gate. Power Integrations disagrees with Fairchild that this phrase, or this claim, excludes all application to devices that may be referred to as "DMOS" transistors.	1
being subject to application of a reverse-bias voltage	Experiencing a bias voltage applied to a semiconductor junction with polarity that permits little or no current to flow.	Reverse-bias in this context is a voltage applied across a rectifying junction with a polarity that provides a high-resistance path. It means that the surface adjoining layer of material recited in the claims is connected in some way to the substrate or "ground" potential.	1

frequency jittering	Frequency jitter is an intentional modulation or variation in the frequency of a signal.	Frequency jitter in the context of the patent is a controlled and predetermined change or variation in the frequency of a signal.			1
coupled	Two circuits are coupled when they are configured such that signals pass from one to the other	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  Two circuits are coupled when they are connected such that voltage, current, or control signals pass from one to the other.	8, 18	9, 11, 17	1
primary voltage	The voltage generated by the primary voltage source.	A primary voltage is a base or initial voltage. Nothing in the patent limits this term to a voltage generated solely by a "primary voltage source."			17, 19
cycling	A periodic change of the controlled variable.	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  Cycling is repeating a sequence or a pattern			17
secondary voltage sources	Additional voltage sources distinct from the primary voltage source.	A voltage source is a source, i.e. a place of procurement or a supply, of voltage and may			17, 19

		include, for example, a resistor having a substantially constant current flowing through it. A secondary voltage source is a source of a secondary voltage. Nothing in the claims or specification requires the secondary voltage source be independent from the source of the primary voltage.			
secondary voltage	A voltage generated by the secondary voltage sources.	Plain meaning: secondary voltage is a subsequent or additional voltage.			17
combining	Adding together from two or more different sources.	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  Combining means adding together. There is nothing that requires the "different sources" added limitation of Fairchild's proposed construction.			17
supplemental voltage	A voltage other than the primary or secondary voltages.	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  A voltage in addition to the primary voltage. Nothing in the intrinsic evidence suggests that a			19

		"supplemental voltage" must be different from the "secondary" voltage.			
on-state	One of two possible states, not the off state	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  See below re maximum duty cycle signal comprising an on-state and an off-state.	1, 10		
off-state	The other of two possible states, not the on state	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  See below re maximum duty cycle signal comprising an on-state and an off-state.	1		
said maximum duty cycle	This term lacks antecedent basis and cannot be construed.	Power Integrations does not believe this term requires construction. It should be subject to plain, English-language interpretation. If the Court believes this term requires construction, though, Power Integrations proposes the following construction:  This limitation clearly has a typographical error in that the term "signal" was inadvertently left off the	1		

		end of the clause "maximum duty cycle". Because the intent is clear, there is nothing ambiguous in the claim, and the intended term "said maximum duty cycle signal" does not lack any antecedent basis. See below re maximum duty cycle signal comprising an on-state and an off-state.			
Soft start circuit	A structure that provides the functionality of providing a signal instructing said drive circuit to disable said drive signal during at least a portion of said on-state of said maximum duty cycle. This means-plus-function element is limited to the structure disclosed in the '366 and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1, including capacitor 110, (ii) the soft start block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii) the corresponding portions of the specification describing these structures.	Soft start circuit should be construed according to 35 U.S.C. § 112 ¶ 6 to include the circuit structures disclosed in the specification for performing the recited functions, and equivalents thereof. The corresponding structures for the "soft start circuit" are disclosed in the specification of the '851 patent at: Col. 5, line 66 – Col. 6, line 9; Col. 6, lines 25-Col. 7, line 8; Col. 11, line 64-Col. 12, line 2. The specification expressly excludes from the definition of "soft start circuit" prior art circuits using an external "soft start capacitor." See Col. 2, line 58-Col. 3, line 8.	1, 2, 9, 16	4, 13	
soft start circuit that provides a signal instructing said drive circuit to disable said drive signal during at least	A structure that provides the functionality of providing a signal instructing said drive circuit to disable said drive signal during at least a portion of said on-state of said maximum duty cycle. This means-plus-function element is limited to the structure disclosed in the '366	The functionality should be construed in accordance with the plain meaning of its terms. The corresponding structure is the same as set forth above.	1, 2		



a portion of said on-state of said maximum duty cycle	and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1, including capacitor 110, (ii) the soft start block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii) the corresponding portions of the specification describing these structures.				
a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal	A structure that provides the functionality of providing a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal. This means-plus-function element is limited to the structure disclosed in the '366 and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1, including capacitor 110, (ii) the soft start block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii) the corresponding portions of the specification describing these structures.	The functionality should be construed in accordance with the plain meaning of its terms. The corresponding structure is the same as set forth above re soft start circuit.		13	
a soft start circuit that provides a signal instructing said drive circuit to disable said drive signal during at least a portion of said maximum time period	A structure that provides the functionality of providing a signal instructing said drive circuit to disable said drive signal during at least a portion of said maximum time period. This means-plus-function element is limited to the structure disclosed in the '366 and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1, including capacitor 110, (ii) the soft start block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii)	The functionality should be construed in accordance with the plain meaning of its terms. The corresponding structure is the same as set forth above re soft start circuit.	9, 16		



	the corresponding portions of the specification describing these structures.				
a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal	A structure that provides the functionality of providing a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal. This means-plus-function element is limited to the structure disclosed in the '366 and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1, including capacitor 110, (ii) the soft start block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii) the corresponding portions of the specification describing these structures.	The functionality should be construed in accordance with the plain meaning of its terms. The corresponding structure is the same as set forth above re soft start circuit.		4	
monolithic device	A device constructed from a single crystal or other single piece of material.	A device constructed from a single crystal or other single piece of material.	2, 16	2, 16	
frequency variation circuit that provides a frequency variation signal	A structure that provides the functionality of providing a signal that is used to modulate or change the frequency at which the switch is operated. This means-plus-function element is limited to the structure disclosed in the '366 and '851 patents, and equivalents thereof. The only such structures disclosed are (i) the circuit shown in Figure 1 including resistor 140 and current 135, (ii) the frequency variation block and low frequency oscillator shown in Figures 3, 6, and 9, and (iii) the corresponding portions of the specification describing	A frequency variation circuit is a structure that provides the "frequency variation signal".  A frequency variation signal is an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range.	5, 14	1, 2, 11, 16	

	these structures.				
Maximum duty cycle signal comprising an on-state and an off-state	A signal with an on state and an off state.	A maximum duty cycle signal is a signal the purpose of which is to limit the maximum "on-time" of a power switch during an on/off switching cycle. The on-state is the state of the maximum duty cycle signal that allows the switch to be active or "on" and is independent of the logic state of the signal itself. Correspondingly, the off-state is the state of the maximum duty cycle signal that results in the switch being placed or held in its inactive or "off" condition and, again, is independent of logic state.	1, 10		